Draft
Environmental Assessment

Management Option of Stocking Fish in Ackley Lake and Martinsdale Reservoir

April 10, 2014

Montana Fish, Wildlife & Parks

Stocking of Fish in Ackley Lake and Martinsdale Reservoir
Draft Environmental Assessment
MEPA/NEPA CHECKLIST

PART I: PROPOSED ACTION DESCRIPTION

1. Type of Proposed Action:

Montana Fish, Wildlife and Parks (FWP) proposes to introduce fish into new waters.

2. Agency authority for the proposed action:

ARM 12.7.601(4) Introduction of fish not indigenous to a particular drainage may be made only after careful study to ensure these fish will be beneficial to that area.

3. Name of Project

Management Option of Stocking of Fish in Ackley Lake and Martinsdale Reservoir

4. Name, Address and Phone Number of Project Sponsor

Montana Fish, Wildlife, and Parks
PO Box 938
215 W. Aztec Drive
Lewistown, MT 59457

5. If Applicable:

Estimated Construction/Commencement Date:	NA
Estimated Completion Date:	2014*
Current Status of Project Design (% complete):	NA

*If the proposed action is implemented, we anticipate the initial stocking of fish to occur in 2014.

6. Location Affected by Proposed Action (county, range and township)

Ackley Lake is a 226-acre irrigation storage reservoir located in Township 14 North, Range 4 East, section 22, 27, Judith Basin County, Montana (Figure 1).

Martinsdale Reservoir is a 946-acre irrigation storage reservoir in Township 8 North, Range 11 East, sections 13, 24, Meagher County, and Township 8 North, Range 12 East, section 18, 19, Wheatland County, Montana (Figure 2).

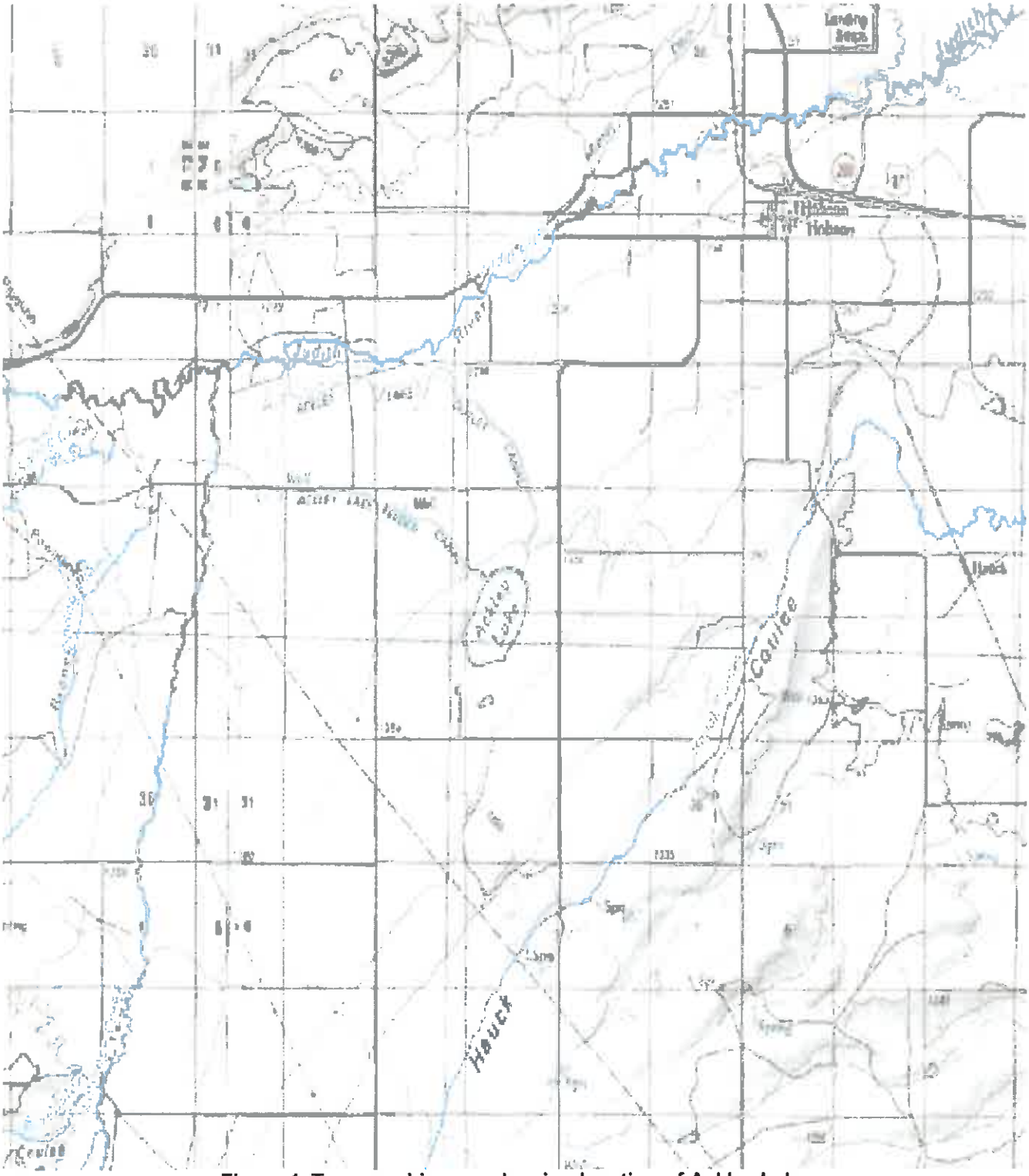

Figure 1. Topographic map showing location of Ackley Lake.

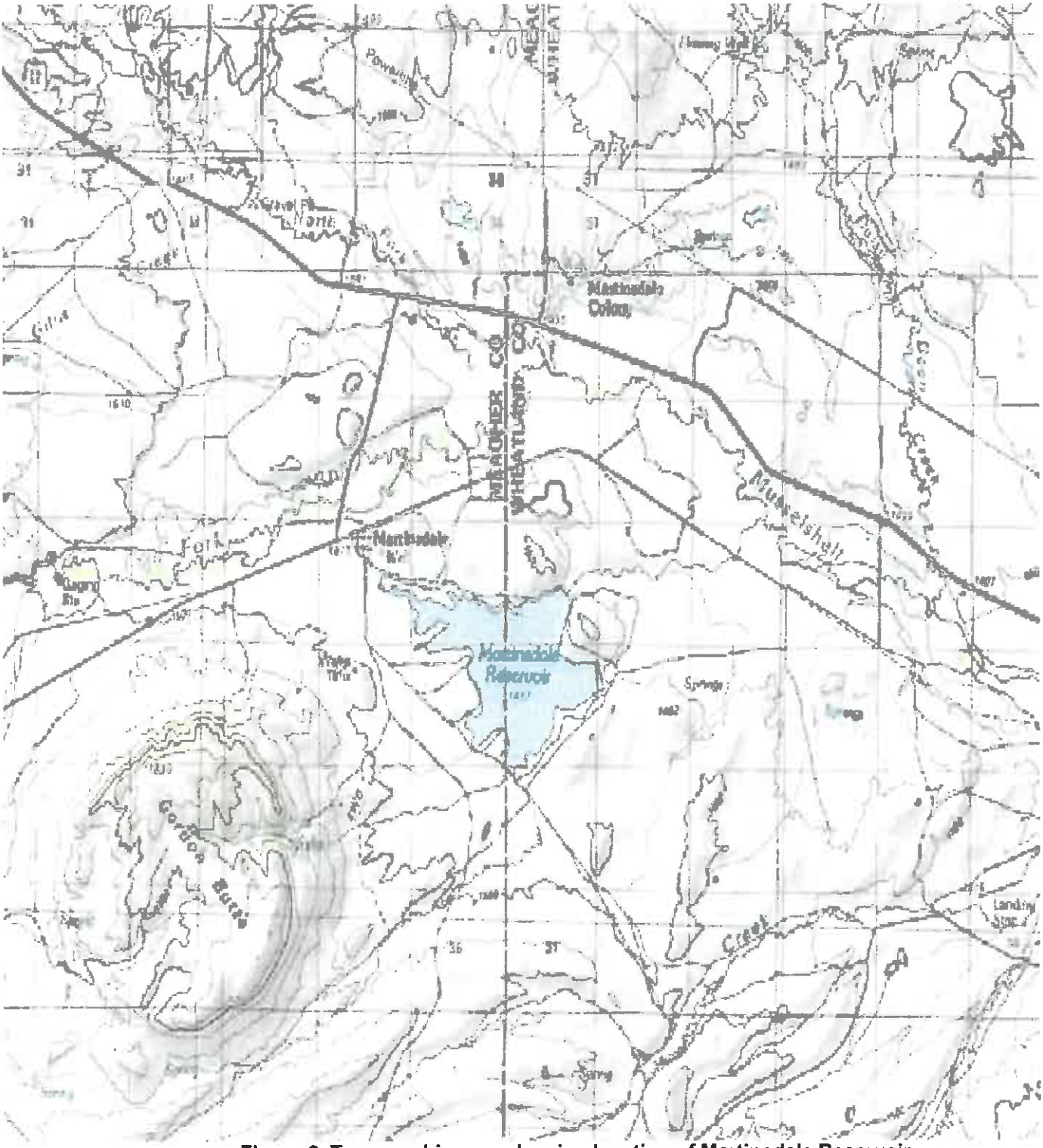

Figure 2. Topographic map showing location of Martinsdale Reservoir.

7. **Project Size: Estimate the number of acres that would be directly affected.**

Ackley Lake has a surface area of 226 acres and a maximum depth of 23 feet. Full pool capacity is 6,722 acre-feet.

Martinsdale Reservoir has a surface area of 946 acres and a maximum depth of 63 feet. Full pool capacity is 23,348 acre-feet.

8. **Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.**

Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility
Montana Fish, Wildlife, and Parks – Hatchery Section	Provide certified disease free fish and/or eggs for stocking. Also, analyze and provide approval/denial of wild fish transfer requests.

9. **Narrative summary of the proposed action or project including the benefits and purpose of the proposed action.**

The narrative summary below details the proposed management option of stocking fish in Ackley Lake and Martinsdale Reservoir. This assessment addresses a fisheries management option, not a management action.

Description

Ackley Lake is a 226-acre irrigation storage reservoir located in Judith Basin County near the town of Hobson. The reservoir is fed by a 5-mile long diversion canal which begins near river mile 105 of the Judith River. The reservoir is initially filled during spring runoff with additional maintenance fill during the summer. The primary purpose of the reservoir is for irrigation, thus water levels fluctuate greatly during the summer months. The reservoir is also the site of Ackley Lake State Park and is a popular camping, boating, and fishing destination.

Martinsdale Reservoir is a 946-acre irrigation storage facility located in Meagher County near the town of Martinsdale. The reservoir is fed by a 3.5 mile long diversion canal which begins near river mile 6 of the South Fork Musselshell River. A diversion canal also exists at river mile 14 of the North Fork Musselshell River as a means to transport water stored in Bair Reservoir to the South Fork Musselshell River at river mile 8 with the potential of being diverted into Martinsdale Reservoir. The reservoir experiences typical summer drawdown and spring fill cycles. Martinsdale Reservoir is a popular fishing, boating, and camping location. Both of the above reservoirs are operated by the state Department of Natural Resources and Conservation.

Existing Fisheries

Ackley Lake and Martinsdale Reservoir are currently managed as put-grow-and-take trout fisheries. Ackley Lake has been stocked with various salmonid species since the 1930's. More recent stocking efforts have utilized only rainbow trout, stocking 30,000 fingerling fish (3-4 inches) annually. Other species currently present in Ackley Lake include brook trout, brown trout, longnose sucker, mountain whitefish, and white sucker. The sucker species and mountain whitefish are the only native species documented in Ackley Lake. Based on data from 2003 to 2011, Ackley was the 17th (SD=1.64) most popular fishery in Region 4, averaging 6,387 (1,374) angler days per year with an average angler satisfaction rating of 2.99 (SD=0.39) (1=poor; 5=excellent).

Martinsdale Reservoir has been stocked with numerous salmonid species since the 1930's. The current stocking program calls for 70,000 fingerling rainbow trout annually, supplemented with up to 7,000 westslope cutthroat trout on an 'as available' basis. Other species present in Martinsdale Reservoir include brown trout, longnose sucker, mountain whitefish, and white sucker. The sucker species and mountain whitefish are the only native species documented in the reservoir. From 2003 to 2011, Martinsdale Reservoir was the 18th (7.35) most popular fishery in Region 4, averaging 5,687 (4,931) angler days per year with an average angler satisfaction rating of 2.99 (SD=0.51).

Management Needs

The above water bodies provide important recreational fishing opportunities to resident and nonresident anglers alike. As such, it is important to manage these reservoirs to provide the highest quality angling experience possible. The most significant limitation to the quality of these trout fisheries is competition for resources with sucker species. Although suckers are native fish and important to the ecosystem, they can overpopulate some waters and outcompete sport fish, especially in artificial impoundments. Annual monitoring reveals high numbers of suckers relative to trout and the data also demonstrate the well known inverse relationship between sucker numbers and trout condition. Past attempts to improve trout condition and increase angler satisfaction have involved trapping and removing suckers. These high-intensity efforts have utilized gillnets and trap nets to capture large numbers of suckers, which are then euthanized and sunk back into the reservoir. These efforts on Ackley Lake and Bair Reservoir in Meagher County have led to moderate short-term improvements to the recreational fishery (Figure 3). The downside of these efforts is that they require many person-hours of work and training, large amounts of travel, interruption of anglers, and a large time commitment of agency staff during the peak field season.

A less costly, low-intensity alternative is to introduce a biological control mechanism such as a predatory fish to suppress and prey upon the sucker populations. This alternative has the potential to meet the management goals of suppressing sucker numbers and providing competitive release for trout populations which would improve the recreational fishery.

The purpose of the proposed management option is to increase size and abundance of trout in these water bodies by reducing the number of suckers. A secondary benefit would be to provide an opportunity for anglers to catch tiger muskie, which is a unique species in central Montana.

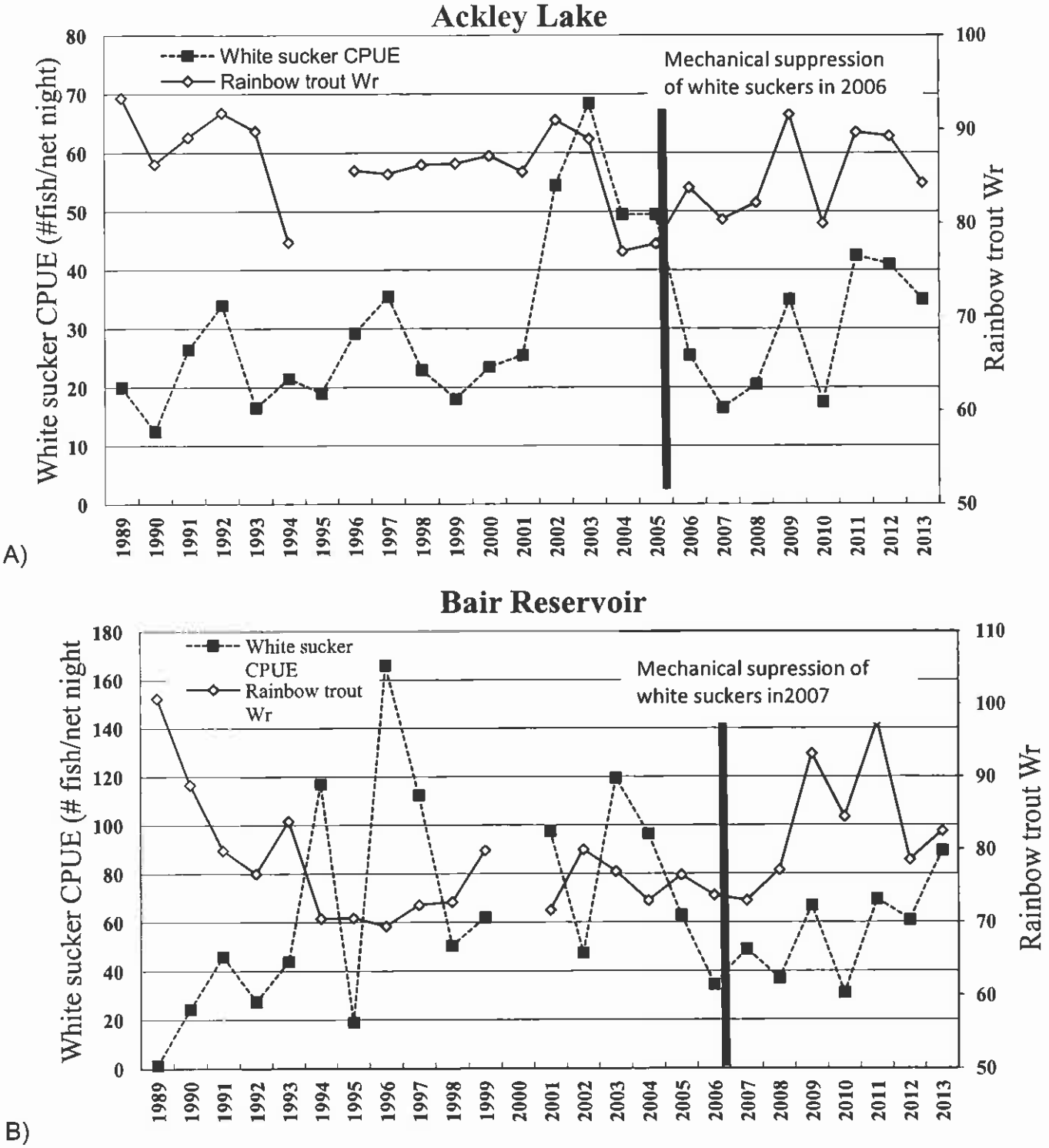

Figure 3. White sucker catch-per-unit-effort (CPUE) and rainbow trout relative weight (W_r) in A) Ackley Lake and B) Bair Reservoir from 1989-2013. Note inverse relationships expressed post-suppression efforts.

Biology of Tiger Muskie

Tiger muskie are a hybrid of northern pike and muskellunge. Because the hybrids are sterile, fisheries managers can tightly control tiger muskie numbers which eliminates the risk of developing a long term population. Tiger muskie experience rapid growth, attaining 12 inches at 1 year, 35 inches at 6 years, and over 40 inches at 10 years and beyond (Lorantus & Kristine 2005). The current Montana state record tiger muskie weighed 38 pounds and was 50 inches long. Tiger muskie are an opportunistic top-level predator with a diet of almost entirely fish, if available. In a laboratory setting, tiger muskie have been found to prefer white suckers over yellow perch and golden shiners (Engstrom-Heg et al. 1986). The authors go on to theorize that due to the bottom-oriented nature of tiger muskie, they tend to select bottom-oriented prey over those that school in mid-water and prefer soft-rayed fishes over spiny-rayed fishes. Tiger muskie are thought to perform best in shallow, vegetated lakes. They have been found to prefer littoral areas of shallow water macrophytes when available where they can ambush prey. During winter months, tiger muskie become increasingly mobile to find suitable habitat conditions and search out prey in pelagic water (Tipping 2001).

Tiger muskie are being increasingly used as a biological control management tool to manage undesirable game and non-game fish in efforts to improve recreational fisheries. For example, efforts by the New Mexico Department of Game and Fish have utilized tiger muskie to depress sucker and goldfish populations in order to benefit trout fisheries (Moffatt 2010). The Idaho Fish and Game found tiger muskies to be very effective at depressing brook trout populations in mountain lakes to the benefit of native species conservation (DuPont et al. 2011). There are also examples of successfully using tiger muskie here in Montana, as seen by the improvement of recreational trout fisheries in Deadmans Basin Reservoir and Lebo Lake, as well as the development and popularity of the unique, trophy fisheries that have been created at these waterbodies (M. Ruggles, Montana Fish, Wildlife, & Parks, personal communication).

Fisheries Objective

The purpose of having the management option of stocking tiger muskie in the waterbodies described would be 1) to provide a biological control of the white sucker population, 2) to improve growth and survival of stocked rainbow trout, 3) to improve the rainbow trout fishery and angler satisfaction, and 4) to provide a unique, trophy fishery for tiger muskie and rainbow trout.

Montana Fish, Wildlife, & Parks has attempted similar introductions to other waterbodies as proposed in this document in efforts to decrease sucker densities and improve recreational angling. These projects have been successful at meeting the management objectives. There have been no documented cases of detrimental impacts of stocking tiger muskie as a biological control in the previous FWP experiences.

The fisheries objectives would be monitored via continued, annual fish population monitoring on any impacted waterbodies. These fisheries objectives have the potential to create a trophy fishery as well as a put-grow-and-take fishery. There are currently no waterbodies managed as trophy fisheries in the Lewistown area. Providing a trophy fishery for tiger muskie and rainbow trout could increase angler satisfaction and recreational use of the proposed waterbodies.

We would measure the success of stocking tiger muskie by the following metrics: 1) observing a decline in the catch per unit effort (CPUE) of white suckers, 2) improved condition of rainbow trout as measured by relative weight, 3) increased average length of rainbow trout, 4) increased CPUE of rainbow trout, and 5) the presence of quality-sized fish.

1. The current 5-year average CPUE of white sucker is 34 (SD=9.9) and 75 (SD=17.6) fish per net night in Ackley and Martinsdale respectively. The objective CPUE of white sucker would be to achieve less than 20 fish per net night, based on observed improvements in the rainbow trout fishery and sucker CPUE in the years immediately following past mechanical suppression efforts.
2. The current condition of rainbow trout (measure of fish weight at a given length) in Ackley has been in a downward trend over the past 5 years, having an average relative weight of 87 (SD=4.7). Rainbow trout in Martinsdale tend to be in good condition, having a 5-year average relative weight of 100 (SD=1.0). The target relative weight following tiger muskie introduction would be at least 95.
3. The 5-year average length of rainbow trout in Ackley Lake and Martinsdale Reservoir has been 11.9" (SD=1.3) and 13.4" (SD=0.8) respectively. Based on historic data when sucker CPUE's were relatively low, the objective average length of rainbow trout if tiger muskie were stocked would be at least 12.5".
4. CPUE of rainbow trout in Ackley and Martinsdale have averaged 24.1 (SD=6.7) and 10.9 (SD=5.9), respectively, over the past 5 years. The objective CPUE of rainbow trout should be at least 30 fish per net night, based on historic data when sucker numbers were relatively low.
5. During the past 5 years, FWP annual sampling has not caught rainbow trout larger than 18" from Ackley Lake. Sampling in Martinsdale has found 6 fish larger than 18" during that same period. The objective of developing quality fisheries for rainbow trout would be measured by increasing the presence of fish larger than 18" sampled from the affected waterbodies. The presence of tiger muskie would potentially provide an additional unique fishery. Only tiger muskie at least 40" in length are legal to harvest in the Central Montana Fishing District. The purpose of this regulation is to ensure tiger muskie fulfill their primary purpose of removing suckers, as the larger fish can eat larger forage.

PART II: ENVIRONMENTAL REVIEW

1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?		X				
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

The proposed action would not result in impacts to land resources.

2. AIR **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. For P-R/D-J projects, will the project result in any discharge which will conflict with federal or state air quality regulations? (Also see 2a)		NA				
f. Other		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (Attach additional pages of narrative if needed):

The proposed action would not result in impacts to air quality.

3. WATER **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. For P-R/D-J, will the project affect a designated floodplain? (Also see 3c)		NA				
m. For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a)		NA				
n. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (Attach additional pages of narrative if needed):

The proposed action would not result in any discernible impacts to water quality.

4. VEGETATION **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				

b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. For P-R/D- J, will the project affect wetlands, or prime and unique farmland?		NA				
g. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

The proposed action would have no impact on vegetation.

5. FISH/WILDLIFE **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?				X		5c
d. Introduction of new species into an area?				X		5d
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?	X					5g
h. For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		NA				
i. For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)				X		5i
j. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

5c. Longnose sucker and white sucker are non-game fish species currently present in Ackley Lake and Martinsdale Reservoir. There would be a long-term negative impact to these species by the proposed action as the goal of the proposed action is to reduce or remove suckers using tiger muskie as a management tool. These species are widespread throughout Montana and reducing their numbers in these waters would cause only localized impacts.

5d & 5i. The proposed action would introduce a new fish species into Ackley Lake and/or Martinsdale Reservoir to provide

biological control of non-game species and unique angling opportunities to catch tiger muskie. Tiger muskie presently occur in the Musselshell drainage, in Deadmans Basin Reservoir and Lebo Lake, with no documented negative impacts to other fish or wildlife in the drainage. Tiger muskie are sterile and fisheries managers would have a high level of management control over their population. No change in impacts or risk of impacts is anticipated from the proposed action. The proposed action would provide a long-term beneficial social impact by improving existing and creating new angling opportunities.

5g. Impacts to fish and wildlife other than those disclosed in this document would not be anticipated.

B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Increases in existing noise levels?		X				
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

The proposed action is not believed to have any impacts on existing noise levels or electrical effects.

7. LAND USE **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				
e. Other: _____		X				7e

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

7e. The stocking of tiger muskie has the potential to become an attraction to anglers and increase popularity and angler use of the proposed waterbodies due to the presence of a unique fishery. The proposed action would not likely result in impacts to the surrounding lands as the proposed sites are developed for public use (i.e. boating, water recreations, camping, picnic areas, etc.).

8. RISK/HEALTH HAZARDS	IMPACT	Can Impact	Comment

Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Be Mitigated	Index
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		NA				
e. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

The proposed action would have no impact to risks or health hazards in the human environment.

9. COMMUNITY IMPACT Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
f. Other:		X				9f

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

9f. The proposed action may result in increased popularity and use of the proposed sites due to tiger muskie providing a unique angling opportunity. The action would have the potential to provide an economic benefit to the surrounding communities via increased recreational/tourist traffic.

10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If		X				

any, specify: _____						
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources		X				
f. Define projected maintenance costs.		X				10f
g. Other:_____						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

10f. State hatchery personnel and equipment would be used, but these costs would not cause any added burden on the state hatchery system.

11. AESTHETICS/RECREATION	IMPACT					
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)			X			11c
d. For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		NA				
e. Other:		NA				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

11c. The proposed action would be intended to increase recreational use of the proposed sites by improving and increasing angling opportunities. No tourism report is required to quantify these opportunities.

12. CULTURAL/HISTORICAL RESOURCES	IMPACT					
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				

d. For P-R/D-J, will the project affect historic or cultural resources? **Attach SHPO letter of clearance.** (Also see 12.a)		NA				
e. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

The proposed action would have no impact on cultural or historical resources.

13. SUMMARY EVALUATION OF SIGNIFICANCE **Will the proposed action, considered as a whole:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)		NA				
g. For P-R/D-J, list any federal or state permits required.		NA				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed)

There were no impacts identified in this analysis that would be individually or cumulatively significant. The proposed action would not have a significant impact on the social, economic, environmental, cultural, or community resources of the area.

PART II: ENVIRONMENTAL REVIEW, CONTINUED

2. **Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a comparison of the alternatives with the proposed action/preferred alternative:**

Alternative A: No Action
If the No Action alternative were adopted, rainbow trout condition and the associated recreational fishery would be dependent upon the fluctuations of the sucker populations. Without any control measures, the quality of the rainbow trout fishery would likely decrease, leading to unsatisfied anglers and less recreational angling opportunities. The No Action alternative would not fulfill the objectives of improving the quality of rainbow trout fisheries in Ackley Lake and Martinsdale Reservoir, increasing recreational angling opportunities, or providing a trophy fishery.

Alternative B: Mechanical Suppression Option
The Mechanical Suppression alternative would provide the desired impacts to the rainbow trout fisheries by manually removing suckers from the systems. A positive of this approach is that there are no risks stemming from biological manipulation. There are numerous downsides to this alternative which were discussed above, including time, cost, and labor and the fact that any improvements are short-term in nature. The Mechanical Suppression alternative would likely fulfill the objectives of improving the quality of the rainbow trout fisheries in Ackley Lake and Martinsdale Reservoir and increasing angling opportunities, however, this alternative would not produce a trophy fishery and the associated costs are high.

Alternative C: Stock Tiger Muskellunge Option (Preferred Alternative)
The option to pursue the Stock Tiger Muskellunge alternative would provide the desired impacts to the rainbow trout fisheries by providing biological control of the sucker populations and providing an additional unique, trophy fishery. This alternative would likely fulfill the objectives of improving the quality of the rainbow trout fisheries in Ackley Lake and Martinsdale Reservoir, increase angling opportunities, and provide a waterbody managed as a regional trophy fishery. This alternative would provide Montana Fish, Wildlife, and Parks the option of planting tiger muskellunge in the aforementioned waterbodies.

3. **Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:**
(This section provides an analysis of impacts to private property by proposed restrictions or stipulations in this EA as required under 75-1-201, MCA, and the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The analysis provided in this EA is conducted in accordance with implementation guidance issued by the Montana Legislative Services Division (EQC, 1996). A completed checklist designed to assist state agencies in identifying and valuating proposed agency actions, such as imposed stipulations, that may result in the taking or damaging of private property, is included in Appendix A.)

The EA has disclosed any impacts and mitigation measures to private property as a result of the proposed action.

PART III: NARRATIVE EVALUATION AND COMMENT

This analysis did not reveal any significant impacts to the human or physical environment.
After consideration of the alternatives listed, the desired objectives, and any limitations identified in this analysis, FWP has made the determination that Alternative C, as described in the draft EA, has the greatest potential of fulfilling the desired objectives while having the least environmental impact. Alternative C provides FWP with the option to stock tiger muskie as a fisheries management tool; it does not mandate that they do so.

PART IV: EA CONCLUSION SECTION

1. **Based on the significance criteria evaluated in this EA, is an EIS required (YES/NO)? If an EIS is not required, explain why the EA is the appropriate level of analysis for the proposed action.**

   No. Based on an evaluation of impacts to the physical and human environment, this assessment revealed no significant negative impacts from the proposed action; therefore, an EIS is not necessary and an environmental assessment is the appropriate level of analysis.

2. **Describe the level of public involvement for this project if any, and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?**

   FWP has initiated conversations with local anglers in an attempt to gauge public interest and support for the proposed action. To date those conversations have been generally supportive of the proposed action.

   This EA will be circulated to interested parties such as angling groups and local sporting goods stores. It will be posted on the FWP website and copies will be made available in the FWP Lewistown Area Resource Office, Region 4 headquarters, and Region 5 headquarters for a period of 30 days. A notice of the proposed project and EA will be advertised in the Lewistown News-Argus.

3. **Duration of comment period, if any. Date when comments are due. Mail or email address to send comments.**

   The draft EA will be open for public comment starting April 11, 2014 through May

16, 2014.

Comments can be sent to:
Montana Fish, Wildlife, & Parks
Attn: Fish Stocking in Ackley & Martinsdale
215 W. Aztec Dr.
PO Box 938
Lewistown, MT 59457
clsmith@mt.gov

4. **Name, title, address, and phone number of the person(s) responsible for preparing the EA.**

Clint Smith
Lewistown Area Fisheries Biologist
Montana Fish, Wildlife, & Parks
215 W. Aztec Dr.
PO Box 938
Lewistown, MT 59457
(406) 538-4658 *227

PART VI. REFERENCES

DuPont, J., K. Schnake, T. Rhodes, and T. Kuzan. 2011. Tiger muskellunge as a biological control agent of brook trout in north central Idaho mountain lakes. 2011 Annual Report.

Engstrom-Heg, R., R.T. Colesante, and G.A. Stillings. 1986. Prey selection of three esocid species and a hybrid esocid. Pages 189-194 *in* G. Hall, Editor, Managing Muskellunges. American Fisheries Society. Special Publication 15, Bethesda, Maryland.

Lorantus, R. and D. Kristine. 2005. Muskellunge and tiger muskellunge management and fining in Pennsylvania. Pennsylvania Fish and Boat Commission, Warmwater Unit. Available from www.fish.state.pa.us/pafish/kusky/00overview_musky.htm.

Moffatt, K. F. 2010. Tiger muskie hybrid wreaks havoc on lakes' undesirables. Sante Fe New Mexican (November 9):10.

Ruggles, M. Montana Fish, Wildlife, & Parks. (406)-247-2963. mikeruggles@mt.gov.

Tipping, J.M. 2001. Movement of tiger muskellunge in Mayfield Reservoir, Washington. North American Journal of Fisheries Management. 21:683-687.

APPENDIX A

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

The 54th Legislature enacted the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The intent of the legislation is to establish an orderly and consistent process by which state agencies evaluate their proposed actions under the "Takings Clauses" of the United States and Montana Constitutions. The Takings Clause of the Fifth Amendment of the United States Constitution provides: "nor shall private property be taken for public use, without just compensation." Similarly, Article II, Section 29 of the Montana Constitution provides: "Private property shall not be taken or damaged for public use without just compensation..."

The Private Property Assessment Act applies to proposed agency actions pertaining to land or water management or to some other environmental matter that, if adopted and enforced without compensation, would constitute a deprivation of private property in violation of the United States or Montana Constitutions.

The Montana State Attorney General's Office has developed guidelines for use by state agency to assess the impact of a proposed agency action on private property. The assessment process includes a careful review of all issues identified in the Attorney General's guidance document (Montana Department of Justice 1997). If the use of the guidelines and checklist indicates that a proposed agency action has taking or damaging implications, the agency must prepare an impact assessment in accordance with Section 5 of the Private Property Assessment Act. For the purposes of this EA, the questions on the following checklist refer to the following required stipulation(s):

(LIST ANY MITIGATION OR STIPALTIONS REQUIRED, OR NOTE "NONE")

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PRIVATE PROPERTY ASSESSMENT ACT?

YES	NO	
	X	1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deprive the owner of all economically viable uses of the property?
	X	4. Does the action deny a fundamental attribute of ownership?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If the answer is **NO**, skip questions 5a and 5b and continue with question 6.]

	NA	5a.	Is there a reasonable, specific connection between the government requirement and legitimate state interests?
	NA	5b.	Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6.	Does the action have a severe impact on the value of the property?
	X	7.	Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? [If the answer is **NO**, do not answer questions 7a-7c.]
	NA	7a.	Is the impact of government action direct, peculiar, and significant?
	NA	7b.	Has government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?
	NA	7c.	Has government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if **YES** is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if **NO** is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with Section 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.